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Harvard Catalyst Evaluation of the PWTF

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Summary of Findings

Hypertension interventions seem to be having a positive impact on community level blood pressure. To date, impact among individuals reached may lead to as many as 500 fewer heart attacks.

There has been an increase in the recording of **smoking** status in recent years, but data do not support significant evidence of referrals for smoking cessation programs or counselling. Interventions do not appear to be cost-effective at present.

PWTF communities are reaching at-risk children with evidence-based interventions to control **pediatric asthma**. If these interventions are as effective in PWTF communities as they have been elsewhere, the impact on ER visits and inpatient stays is likely to be substantial. However, at this point in the PWTF program, insufficient time has passed to accurately assess trends in actual health care utilization.

PWTF interventions to reduce **falls** in persons over age 65 have only reached a small fraction of target population. Falls severe enough to induce health care utilization are rare. In PWTF communities, evidence-based falls prevention interventions have not yet reached a level of scale to observe an impact on health care utilization.

As a systems development initiative, PWTF has made progress linking clinical and community resources to improve outcomes, control costs, and achieve greater equity. While too early to be certain, and more data needs to be analyzed, it appears to have been a good investment.

Scope of PWTF Evaluation

Nine Communities

Four Priority Conditions

Sixteen Clinical and Community Evidence-Based Interventions

- 5 clinical
- 11 community

Interventions Began at Different Times

- 19% in last quarter of 2014
- 63% throughout 2015
- 18% in first half of 2016

Mandated Objectives of PWTF Evaluation

Measure, in grantee communities:

The extent to which the program impacted the prevalence of preventable health conditions;

The extent to which the program reduced health care costs or trends in the growth in health care costs;

Whether health care costs were reduced and who benefited from the reduction; and

Whether the program contributed to a reduction in health disparities by racial/ethnic group.

Components of the PWTF Evaluation

Outcomes (prevalence) and intermediate outcomes.

Costs, cost effectiveness (CE), and return on investment (ROI).

Process evaluation studying implementation, lessons learned, and infrastructure/systems impact.

Data Sources

All Payers Claims Database (APCD): Commercial only.

MDPHnet: Eight PWTF communities and comparison sites.

EHR Data from 25 PWTF clinical sites.

Encounter-Level data collected from grantees by MDPH.

Financial reports collected from grantees by MDPH and primary interviews conducted with three partnerships.

Primary process evaluation data collected from grantees.

Findings: Hypertension

Interventions for hypertension were primarily designed to improve detection and treatment of those with hypertension and not to alter overall prevalence of the condition in the short term.

APCD and MDPHnet data show no significant change in the overall prevalence of the condition.

Prevalence among, and disparities between, racial and ethnic groups also remained steady.

Findings: Hypertension (2)

MDPHnet Data

Mild to modest decreases in prevalence were found in three PWTF communities compared with comparison sites.

Average diastolic blood pressure was stable in Massachusetts, with slight decreases in two PWTF communities.

Treated hypertension, the proportion of those with active hypertension who are being treated for the condition, remained steady statewide at about 60% but increased modestly in two PWTF communities.

The fraction of people whose hypertension was under control increased in five of the nine PWTF sites.

Findings: Hypertension (3)

EHR Data

A small but positive increase in the number of people screened for hypertension (58% vs 62%).

Compared to pre-intervention measurements, there was an improvement in systolic blood pressure levels for those with hypertension during the intervention period (0.5 to 1.0 mmHg).

Findings: Hypertension (4)

If the changes in blood pressure among those with hypertension during the intervention period persisted, this could result in up to 500 to 1,000 fewer heart attacks and strokes per million residents over their lifetime.

The changes in blood pressure would also lead to between 125 to 250 fewer deaths due to cardiovascular disease per million treated.

Findings: Hypertension (5)

APCD: Six PWTF communities showed modest drops in total hypertension costs from 2010 to 2015, and four of them also showed drops in average cost per person. However, some of these declines took place before the intervention period began.

Hypertension interventions, including screening and community-based education, appear highly cost-effective (i.e., good value for money spent).

The interventions are comparable in value to such accepted interventions as mammography screening, treatment for heart attacks, and treatment for elevated cholesterol.

Findings: Tobacco

There was a substantial increase in recording smoking status during the pre-intervention phase (2012 to 2014), and a modest increase since, to a rate of 88% by October 2016.

There did not appear to be an effect on smoking prevalence rates (using the multiple data sources). Prevalence of smoking by race/ethnicity was steady over the last two years statewide.

Findings: Tobacco (2)

Data did not support significant evidence of referrals for smoking cessation programs or counselling.

It is possible that more smoking cessation counseling occurred than was recorded because available data fields do not allow for its detection and many providers do not code for this in their billing.

Findings: Tobacco (3)

APCD showed a decrease in total costs of COPD in three PWTF communities from 2010 to 2015. However, some of these declines took place before the intervention period began.

Based on limited data, we projected that the interventions were not cost-effective.

Quit rates from increased counselling referrals would need to occur at a rate 10-times what was recorded in the data to be cost-effective and 100-times what was recorded to have a positive return on investment.

Findings: Pediatric Asthma

MDPHnet: While statewide prevalence of asthma in 0–9 year-olds decreased from 13% to 10% between 2012 and mid-2016, there were larger drops in rates in four PWTF communities, and their comparison communities had milder or no decreases.

These communities launched asthma interventions earlier than other partnerships. Also, two of the four implemented larger-scale programs built on strong pre-existing programs, and accounted for 89% of PWTF's 6,432 asthma intervention participants.

Statewide prevalence of asthma in 10–19 year olds was stable. Two PWTF communities showed modest drops compared with the state and with their comparison communities.

Findings: Pediatric Asthma (2)

There was not enough reliable information at present to assess progress in asthma control in PWTF communities.

APCD: All six PWTF communities addressing pediatric asthma show declines in total costs per year compared with comparison communities. However, analysis of MassHealth and Case Mix emergency department data is necessary to supplement this data.

While more data is needed, our estimates suggest these interventions may give good value and perhaps result in net cost savings in time.

Findings: Falls Among Older Adults

According to APCD data, 1-6% of elderly adults (65+) had a fall-related injury between 2010 and 2015.

Two communities showed slightly reduced prevalence of fall-related injuries during the intervention period while their comparison communities showed an increase in prevalence.

Five PWTF communities showed an increase in the prevalence of fall-related injuries while prevalence in their comparison communities dropped.

Findings: Falls Among Older Adults (2)

PWTF interventions may have prevented about 220 fall-related injuries, including about 48 that would have required medical care.

APCD: The total cost of fall-related injuries dropped in two PWTF communities; both, plus a third community, showed declines in per-person costs as well.

At this time, cost-savings generated by the PWTF falls interventions are likely to be small.

Findings: Falls Among Older Adults (3)

Falls Prevention: Most pronounced systems innovation among the four priority conditions.

Only about 50% of falls partners were previous collaborators compared with 83% for asthma, 75% for hypertension, and 64% for tobacco.

Progress: Screening simplified and being embedded in clinical workflow.

Progress: Referrals and uptake of interventions.

Findings: Falls Among Older Adults (4)

Implementers perceived success of Matter of Balance vs. home-based modifications.

Medicare and Case Mix data needed for more thorough analysis.

Interventions can have additional quality-of-life and CE benefits by reducing fear of falling, especially if program enrollment increases.

If the delivery of PWTF falls intervention programs becomes more efficient as programs mature, they might well become cost-effective and cost-saving.

Findings: Implementation

Partnerships

PWTF objectives were not only to improve outcomes and reduce costs, but also to develop creative and sustainable systems changes, especially addressing health equity.

PWTF built on existing relationships from earlier collaborations, and also created new partnerships particularly around falls prevention.

Community organizations such as the YMCA, senior centers and housing authorities, as well as municipal/county and hospital administrators, were enthusiastic and effective partners.

Partnerships evolved clinical-community linkages that may have been more effective and efficient than EHRs were able to capture.

Social network analysis: In addition to traditional collaborative activities, partners shared best practices and staff, and provided one another with technical assistance and training.

Findings: Implementation (2)

Health Equity

While the PWTF model emphasized clinical referrals to community-based interventions, partnerships added community-initiated referral strategies and mechanisms in order to expand the reach of health systems.

Innovative strategies to help community members enter the healthcare system included:

- Identifying smokers and residents with undiagnosed hypertension at wellness days in public housing developments;
- Identifying children with asthma in pre-school and school settings;
- Identifying potential participants for Matter of Balance classes among elders involved with community-based organizations.

Findings: Implementation (3)

Community Health Workers

Community Health Workers in health equity strategies

- CHWs played critical roles in both clinical-community linkages and community-based health equity strategies.
- These roles included community outreach, referrals, facilitating communication during clinical office visits, appointment follow up, home visits, leading classes & trainings
- CHWs engage hard to reach populations: Multilingual, sign language interpretation, refugee & immigrant communities, uninsured

Sustaining centralized systems for processing and following up on referrals is a key goal for several partnerships

Findings: Implementation (4)

Clinical Change Strategies

Clinician buy-in was a key precursor to intervention implementation, and was facilitated by:

- Champions
- Alignment with organizational mission
- Efficient alignment with quality measures and EHRs
- Strategies to easily integrate new screenings and referrals within current clinical workflow
- Task sharing and skill development of community health workers and clinical support staff
- Patients and visible improvement help win clinicians

Next Steps in PWTF Evaluation

Data for individual communities as requested.

2010 to 2015 MassHealth data

2010 to 2015 CaseMix data

2016 APCD and MassHealth data (if possible)

2015 Medicare data (if possible)

Conclusion

While the PWTF intervention period was brief and the data had limitations that we are still working to improve, we found important positive results in terms of outcomes, costs and cost-effectiveness, and systems development.

Further analysis that extends the measured intervention period, and includes MassHealth and Case Mix data, can strengthen generalizability and shed more light on disparities-reduction and other goals.

The PWTF partnerships and the communities they serve can make good use of the quantitative and qualitative data they helped us to collect.

Thank You